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GEOGRAPHIC INTELLIGENCE MEMORANDUM

CIA/RR-GM-3
27 May 1957

IRRIGATION AS A FACTOR IN THE GROWTH OF ISRAEL

CENTRAL INTELLIGENCE AGENCY
OFFICE OF RESEARCH AND REPORTS

The State of Israel has operated from its inception on a series of plans for expansion rather than on haphazard development. The number of people in the state is an essential consideration to the Israeli Government in maintaining its political development under conditions of Arab numerical superiority and hostile pressures, and this factor has been carefully programmed, also. 1,2/ The Jewish birthrate is 29 per thousand -- higher than the 25 per thousand in the United States and 27 in India -- and this natural increase is being supplemented by immigration, which was increased to 17,000 in 1954 and is now at the rate of 50,000 to 100,000 per year. The total population -- now 1,870,000 -- will exceed 2,500,000 in 1961 if the present immigration rate is maintained, and for a later date an optimum figure of 4,000,000 is anticipated. 3/ 25X6

25X6 Israel recognizes that the population increase is largely contingent upon water availability. [redacted] The water supply for irrigation has been developed not so much with attention to cost but rather in order to keep pace with planned population increases. 3,4/ Although the Jewish population has increased 150 percent since 1948, there has been relatively little change in the ratio of Jewish people to irrigated land. At present the state is on the fringe of a water shortage and is reaching the limits of development of the waters within its borders. Drilled wells in the Negev are not producing quantities of water adequate for irrigation in the area and are to be supplemented by raw Tel Aviv sewerage, water from Yarkon Springs near Tel Aviv, and eventually by water from the Jordan River. A major pipeline to the Negev has already been built.

The government has arrived at estimates of irrigable land and of water available for irrigation. From a mere 0.45 dunams* of irrigated land per Jewish person in 1948-49, Israel progressed to 0.62 dunams per person in 1955-56 and is now using about half the water available in Israel for this purpose. Use of all available water would fall far short of meeting the avowed goal of supplying more than twice the present population with 0.92 dunams per person. 5/ Furthermore, only by assuming the most optimistic availability figure and the lowest permissible rate of water application could all the irrigable land eventually be used -- leaving no reserve as insurance against crop failure in years of unusually low rainfall.

Various aspects of development of water resources have been under consideration since before the creation of the State of Israel. By 1955, planning had reached an advanced stage; and, in some phases of the overall development plan, construction was well advanced. Included in this plan are (1) drainage of the Hula swamps; (2) irrigation of the Hula Basin from waters of the Dan springs; (3) irrigation of the Esdraelon and Northern Coastal Plains (Western Galilee Scheme) by water from wells and springs, Haifa sewerage, and local runoff; (4) irrigation of the northern Negev by water piped from the Yarkon River, Tel Aviv sewerage, and springs east of Tel Aviv; (5) irrigation of the Tiberias-Beisan area by pumping water from Lake Tiberias and the Jordan River; and (6) a scheme to conduct water from the Jordan River below Lake Hula into the Battauf Reservoir and thence through Faluja to the Negev. A plan is also being carried out, supposedly on a short-term basis, whereby water from the Jordan River is diverted through a power plant into Lake Tiberias. The lake serves as an additional reservoir in this plan, and water is pumped in varying amounts into the pipeline to the Negev.

The entire program has been laid out in stages that, in the Israeli view, can be reasonably financed within the framework of national goals and can be

*1 dunam = 0.23 acres or 1,000 square meters.

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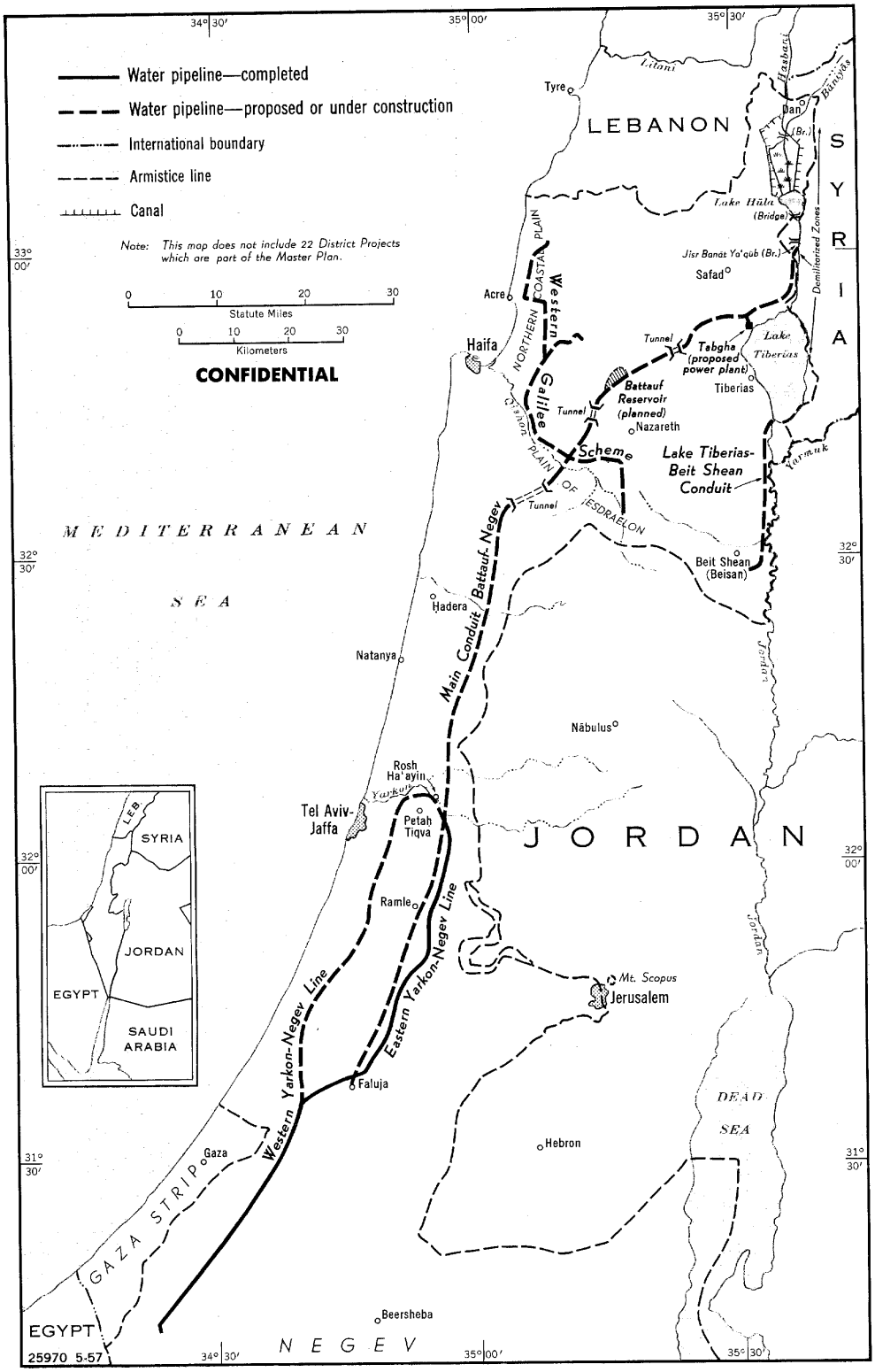

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put into operation immediately upon completion. No single stage is dependent upon future construction, but later stages increase the utility of each earlier stage. In planning pipe sizes of major conduits, a much larger capacity is provided than initially can be fully utilized. The first stages of the program call for the utilization of water that has been estimated to be presently available to Israel. In addition, careful consideration has been given to the use of water from the Jordan and from sources outside Israel. Available reports released by the Ministry of Agriculture include the use of large quantities of water from the Jordan River. The potential use of Litani and Yarmuk waters has also been discussed in connection with the "ultimate development" of Israel, but these two rivers have been excluded from the Final Report.

Israeli planning makes provision for the handling of Jordan and Litani waters and for the possibility of diverting the Yarmuk River into Lake Tiberias, thus permitting the total diversion of the Jordan River above the lake. The most recent planning reports state that early ground water estimates were overly optimistic and call for a net import of water into some areas originally designated as water export regions. By 1960-61, major conduits will be ready to receive more water than will be available from internal sources at that time. Israeli planners further state that by 1965 relatively full development of internal waters will have been achieved and that approximately one-fourth of all the irrigation water used in Israel will come from the Jordan River. 6/

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